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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/815,797	04/02/2004	Doru Calin	29250-001068/US	9920

7590 05/17/2007

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EXAMINER	
RAMPURIA, SHARAD K	

ART UNIT	PAPER NUMBER
2617	

MAIL DATE	DELIVERY MODE
05/17/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/815,797	CALIN ET AL.	
	Examiner	Art Unit	
	Sharad Rampuria	2617	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *10 January 2007*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-49* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-49* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

I. The Art Unit location of this application in the USPTO has changed. To aid in correlating any papers for this application, all further correspondence regarding this application should be directed to Art Unit 2617.

II. In view of the Appeal Brief Filed on 01/10/2007, PROSECUTION IS HEREBY REOPENED set forth below.

To avoid abandonment of the application, appellant must exercise one of the following two options:

(1) file a reply under 37 CFR 1.111 (if this Office action is non-final) or a reply under 37 CFR 1.113 (if this Office action is final); or,

(2) initiate a new appeal by filing a notice of appeal under 37 CFR 41.31 followed by an appeal brief under 37 CFR 41.37. The previously paid notice of appeal fee and appeal brief fee can be applied to the new appeal. If, however, the appeal fees set forth in 37 CFR 41.20 have been increased since they were previously paid, then appellant must pay the difference between the increased fees and the amount previously paid.

A Supervisory Patent Examiner (SPE) has approved of reopening prosecution by signing below:

GEORGE ENG
SUPERVISORY PATENT EXAMINER

Disposition of the claims

III. The current office-action is in response to the Appeal Brief Filed on 01/10/2007.

Accordingly, Claims 1-49 are pending for further examination as follows:

Claim Rejections - 35 USC § 103

IV. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claims 1, 3-4, 8-12, 20, 22-23, 27-29, 37, 41-42, and 47-49 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lyer et al. [US 6295450] in view of Tran [US 20020150063].

As per claims 1, 20, 37, Lyer teaches:

A method for setting a number of base stations that can be considered hand-off base stations (i.e. transmitting to the remote unit, a list comprising a set of base stations from the plurality of neighboring base stations, that are capable of supporting the current service required by the remote unit, the list additionally not including neighboring base stations that are incapable of supporting the current service required by the remote unit wherein the list is utilized by the remote unit for transferring communication within the communication system; see Claim 1; lines 8-16, Abstract, Col.4; 33-40) comprising the steps of:

Measuring signal quality associated with one ore more base stations (Steps 215, figure 2)

Setting number of base stations that can be considered hand-off base stations from a neighbor list of potential hand-off base stations based on signal quality measurement (e.g., account the base station capability for handoff; Col.5; 59-Col.6; 6).

Lyer doesn't teach specifically of measuring real time traffic flow criteria for setting a number of base station and utilizing the real time traffic flow criteria for setting number of base stations. However, Tran teaches in an analogous art, that adjustment on the signal strength indicator of base station depending upon current load (read as real time traffic flow criteria) of base station in order to determine whether there is any adjacent base station being a roam candidate. (e.g. dependent on current loading of the base station; ¶ 0011 and ¶ 0012) Therefore, it would have been obvious to one of ordinary skill in the art at the time of invention to modify Lyer including measuring real-time traffic flow criteria associated with one or more base stations and utilizing the real time traffic flow criteria for setting number of base stations in order to provide a system for balancing communication traffic loading during hand-off operation. (¶ 0002)

As per claims 3, 22, Lyre teaches all the particulars of the claim except potential hand-off base stations based on traffic flows. However, Tran teaches in an analogous art, that the method as in claims 1, 20, respectively, further comprising the step of maintaining an initial neighbor list and generating an adaptable neighbor list of potential hand-off base stations based on traffic flows. (e.g. dependent on current loading (read as real time traffic flow criteria) of the base station; ¶ 0011)

As per claims 4, 23, Lyre teach the method as in claims 1, 20, respectively, further comprising setting the size of the adaptable neighbor list without requiring human intervention. (e.g., account the base station capability for handoff; Col.5; 59-Col.6; 6).

As per claims 8, 27, Lyer teaches:

The method as in claims 1, 20, respectively, further comprises the step of forwarding the varied, adaptable neighbor list to the wireless device. (113; Fig.1, Col.4; 12-15)

As per claim 9, Lyer teaches:

The method as in claim 1 wherein the wireless device is operable to enable the hand-off. (Col.4; 27-32)

As per claim 10, Lyer teaches:

The method as in claim 1 wherein the at least one base station on the varied list is operable to enable the hand-off. (Col.4; 41-46)

As per claims 11, 28, 41, Lyer teaches:

A method for setting a number of base stations that can be considered hand-off base stations (i.e. transmitting to the remote unit, a list comprising a set of base stations from the plurality of neighboring base stations, that are capable of supporting the current service required by the remote unit, the list additionally not including neighboring base stations that are incapable of supporting the current service required by the remote unit wherein the list is utilized by the remote unit for transferring communication within the communication system; see Claim 1; lines 8-16, Abstract, Col.4; 33-40) comprising the steps of:

Setting number of base stations that can be considered hand-off base stations associated with the threshold based on the results of the comparison. (e.g., account the base station capability for handoff; Col.5; 59-Col.6; 6).

Lyer doesn't teach specifically, measuring real time traffic flow criteria of a base station on the list; comparing the measured flow criteria to a threshold. However, Tran teaches in an analogous art, that adjustment on the signal strength indicator of base station depending upon current load (read as real time traffic flow criteria) of base station in order to determine whether there is any adjacent base station being a roam candidate. (e.g. dependent on current loading of the base station; ¶ 0011 and ¶ 0012)

As per claims 47-49, Lyer teaches:

The method as in claims 1, 20, 37, wherein the measurement step further comprises (see Claim 1; lines 8-16, Abstract, Col.4; 33-40) comprising:

Measuring the level of one or more pilot signals, each pilot signal associated with a potential hand-off base station included in the neighbor list (e.g., account the base station capability for handoff; Col.5; 59-Col.6; 6)

Claims 2, 5-7, 13-15, 21, 24-26, 30-32, 38-40 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lyer & Tran further in view of Celedon et al. [US 20030190916].

As per claims 2, 21, 38, the above combinations teaches all the particulars of the claim except the step of varying the size of the neighbor list so that the size is set below an initial size to prevent a return to an overload traffic condition. However, Celedon teaches in an analogous art, that the method as in claims 1, 20, 37 respectively, further comprising the step of varying the size of the neighbor list so that the size is set below an initial size to prevent a return to an overload traffic condition. (Pg.2; 0024) Therefore, it would have been obvious to one of ordinary skill in the art at the time of invention to modify Lyer including the step of varying the size of the neighbor list so that the size is set below an initial size to prevent a return to an overload traffic condition in order to provide a method of optimizing neighbor lists by automatically removing and adding cells to overcome the disadvantages of the existing solutions.

As per claims 5-6, 24-25, 39-40, the above combinations teaches all the particulars of the claim except decreasing/increasing the size of the adaptable neighbor list as the traffic flow

criteria worsens/improves. However, Celedon teaches in an analogous art, that the method as in claims 1, 20, 37 respectively, further comprising decreasing/increasing the size of the adaptable neighbor list as the traffic flow criteria worsens/improves. (Pg.2; 0028)

As per claims 7, 26, the above combinations teach all the particulars of the claim except the number of base stations included in the adaptable neighbor list of potential hand-off base stations is less than a maximum number of base stations included in an initial neighbor list. However, Celedon teaches in an analogous art, that the method as in claims 1, 20, respectively, wherein the number of base stations included in the adaptable neighbor list of potential hand-off base stations is less than a maximum number of base stations included in an initial neighbor list. (Pg.3; 0037)

As per claims 13-15, 30-32, the above combinations teach all the particulars of the claim except a value of the threshold may change over time. However, Celedon teaches in an analogous art, that the method as in claims 11, 28, respectively, wherein a value of the threshold may change over time. (i.e. threshold are variable; Pg.3; 0034)

Claims 16-19, 33-36, 43-46 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lyer & Celedon et al. [US 20030190916] and further in view of Hellander [US 6445918].

As per claims 16, 33, 43, Lyer teaches:

A method for controlling hand-offs in a base station (i.e. transmitting to the remote unit, a list comprising a set of base stations from the plurality of neighboring base stations, that are capable of supporting the current service required by the remote unit, the list additionally not including neighboring base stations that are incapable of supporting the current service required by the remote unit wherein the list is utilized by the remote unit for transferring communication within the communication system; see Claim 1; lines 8-16, Abstract, Col.4; 33-40) comprising the steps of:

Lyer doesn't teach expressly, controlling the length of a neighboring base station list as a function of the value of the traffic flow criteria. However, Celedon teaches in an analogous art, that controlling the length of a neighboring base station list as a function of the value of the traffic flow criteria; (i.e. determining the necessity for removing or adding a particular cell in a neighbor list; Pg.2; 0022, 0024) Therefore, it would have been obvious to one of ordinary skill in the art at the time of invention to modify Lyer including controlling the length of a neighboring base station list as a function of the value of the traffic flow criteria in order to provide a method of optimizing neighbor lists by automatically removing and adding cells to overcome the disadvantages of the existing solutions.

Lyer and Celedon don't teach explicitly, measuring, in real-time, traffic flow criteria related to a wireless network. However, Hellander teaches in an analogous art, that measuring, in real-time, traffic flow criteria related to a wireless network. (i.e. In addition, in accordance with mobile-assisted handoff (MAHO) procedures, the serving RBS 16 periodically transmits a neighboring cell list via the serving RBS's digital traffic channel (DTC) (i.e., in a logical subchannel of the DTC, such as the FACCH or SACCH). The neighboring cell list includes an

identification of the neighboring cells and the digital control channels (DCCHs) that are associated with those cells. The mobile station 10 uses the information in the neighboring cell list to periodically measure the signal strength of DCCH signals transmitted by RBSs 16 in the neighboring cells. The measurements can be performed during idle timeslots, i.e., timeslots during which the mobile station neither transmits nor receives signals of the ongoing call. Thus, the mobile station 10 is able to identify which one of the neighboring cells would provide the best service at any given time by comparing the signal strength and/or quality of these measurements; Col.4; 29-47) Therefore, it would have been obvious to one of ordinary skill in the art at the time of invention to modify Lyer and Celedon including measuring, in real-time, traffic flow criteria related to a wireless network in order to provide a method in particular to saving dropped calls in the mobile telecommunications environment.

As per claims 17, 34, 44, Lyer teaches:

A method for use in a wireless network (i.e. transmitting to the remote unit, a list comprising a set of base stations from the plurality of neighboring base stations, that are capable of supporting the current service required by the remote unit, the list additionally not including neighboring base stations that are incapable of supporting the current service required by the remote unit wherein the list is utilized by the remote unit for transferring communication within the communication system; see Claim 1; lines 8-16, Abstract, Col.4; 33-40) comprising the steps of:

Lyer doesn't teach expressly, enabling a base station currently serving a call for a wireless device to hand-off said call to another base station on its neighboring base station list.

However, Celedon teaches in an analogous art, that enabling a base station currently serving a call for a wireless device to hand-off said call to another base station on its neighboring base station list; (i.e. determining the necessity for removing or adding a particular cell in a neighbor list; Pg.2; 0022, 0024) Therefore, it would have been obvious to one of ordinary skill in the art at the time of invention to modify Lyer including enabling a base station currently serving a call for a wireless device to hand-off said call to another base station on its neighboring base station list in order to provide a method of optimizing neighbor lists by automatically removing and adding cells to overcome the disadvantages of the existing solutions.

Lyer and Celedon don't teach explicitly, only when a real-time measurement of a traffic flow criteria meets an acceptable level. However, Hellander teaches in an analogous art, that only when a real-time measurement of a traffic flow criteria meets an acceptable level. (i.e. In addition, in accordance with mobile-assisted handoff (MAHO) procedures, the serving RBS 16 periodically transmits a neighboring cell list via the serving RBS's digital traffic channel (DTC) (i.e., in a logical subchannel of the DTC, such as the FACCH or SACCH). The neighboring cell list includes an identification of the neighboring cells and the digital control channels (DCCHs) that are associated with those cells. The mobile station 10 uses the information in the neighboring cell list to periodically measure the signal strength of DCCH signals transmitted by RBSs 16 in the neighboring cells. The measurements can be performed during idle timeslots, i.e., timeslots during which the mobile station neither transmits nor receives signals of the ongoing call. Thus, the mobile station 10 is able to identify which one of the neighboring cells would provide the best service at any given time by comparing the signal strength and/or quality of these measurements; Col.4; 29-47) Therefore, it would have been obvious to one of ordinary

skill in the art at the time of invention to modify Lyer and Celedon including only when a real-time measurement of a traffic flow criteria meets an acceptable level in order to provide a method in particular to saving dropped calls in the mobile telecommunications environment.

As per claims 18, 35, 45, the above combinations teach all the particulars of the claim except the step of preventing said base station from handing-off said call when said traffic flow criteria does not meet said acceptable level. However, Hellander teaches in an analogous art, that the method as in claims 17, 34, 44, respectively, further comprising the step of preventing said base station from handing-off said call when said traffic flow criteria does not meet said acceptable level. (Col.4; 48-63)

As per claims 19, 36, 46, Lyer teaches:

A method for use in a wireless network comprising the step of (i.e. transmitting to the remote unit, a list comprising a set of base stations from the plurality of neighboring base stations, that are capable of supporting the current service required by the remote unit, the list additionally not including neighboring base stations that are incapable of supporting the current service required by the remote unit wherein the list is utilized by the remote unit for transferring communication within the communication system; see Claim 1; lines 8-16, Abstract, Col.4; 33-40)

Lyer doesn't teach expressly, enabling a first base station to hand-off a call being served by said first base station to a second base station on said first base station's neighboring base station list. However, Celedon teaches in an analogous art, that enabling a first base station to

hand-off a call being served by said first base station to a second base station on said first base station's neighboring base station list; (i.e. determining the necessity for removing or adding a particular cell in a neighbor list; Pg.2; 0022, 0024) Therefore, it would have been obvious to one of ordinary skill in the art at the time of invention to modify Lyer including enabling a first base station to hand-off a call being served by said first base station to a second base station on said first base station's neighboring base station list in order to provide a method of optimizing neighbor lists by automatically removing and adding cells to overcome the disadvantages of the existing solutions.

Lyer and Celedon don't teach explicitly, call is not dropped by said second base station substantially immediately after said hand-off. However, Hellander teaches in an analogous art, that only when a real-time measurement of traffic flow criteria indicates that said second base station can serve said call, whereby said call is not dropped by said second base station substantially immediately after said hand-off. (i.e. In addition, in accordance with mobile-assisted handoff (MAHO) procedures, the serving RBS 16 periodically transmits a neighboring cell list via the serving RBS's digital traffic channel (DTC) (i.e., in a logical subchannel of the DTC, such as the FACCH or SACCH). The neighboring cell list includes an identification of the neighboring cells and the digital control channels (DCCHs) that are associated with those cells. The mobile station 10 uses the information in the neighboring cell list to periodically measure the signal strength of DCCH signals transmitted by RBSs 16 in the neighboring cells. The measurements can be performed during idle timeslots, i.e., timeslots during which the mobile station neither transmits nor receives signals of the ongoing call. Thus, the mobile station 10 is able to identify which one of the neighboring cells would provide the best service at any given

time by comparing the signal strength and/or quality of these measurements; Col.4; 29-47 and Col.5; 14-36) Therefore, it would have been obvious to one of ordinary skill in the art at the time of invention to modify Lyer and Celedon including call is not dropped by said second base station substantially immediately after said hand-off in order to provide a method in particular to saving dropped calls in the mobile telecommunications environment.

Response to Amendments & Arguments

V. Applicant's arguments with respect to claims 1-49 has been fully considered but is moot in view of the new ground(s) of rejection.

Conclusion

VI. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Sharad Rampuria whose telephone number is (571) 272-7870. The examiner can normally be reached on M-F. (8:30-5 EST).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, George Eng can be reached on (571) 272-7495. The fax phone number for the organization where this application or proceeding is assigned is (571) 273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://portal.uspto.gov/external/portal/pair. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free) or *EBC@uspto.gov*.

Sharad Rampuria
Patent Examiner
Art Unit 2617

GEORGE ENG
SUPERVISORY PATENT EXAMINER